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LIMESTONES AND COAL.

CHEMICAL ANALYSES BY WILLIAM H. SAUNDERS.

The following quantitative chemical analyses are of two varieties of limestones from Junction City, and two varieties of coals, found along the line of the Kansas Pacific railroad, in Colorado. Stone No. 1 is the quality ordinarily used. No. 2 is from a new quarry lately opened. A decided difference will be noticed between the samples. No. 2 is free from pores, and although it has a very considerable amount of magnesia in its composition, it is my opinion, based on its compactness, the large amount of silicates present, and its slow solubility in acids, that it will prove more durable than the quality ordinarily used. The color, a light drab, is very fine:

LIMESTONES.		No. 1.	No. 2.
Hygrometric moisture escaping at 212° F.....	.55	.75	
Carbonate of Lime.....	88.85	67.23	
Carbonate of Magnesia.....	4.15	17.45	
Sesqui-oxide of Iron and Alumina, mostly Iron.....	1.20	2.05	
Insoluble Silica and Silicates.....	5.10	12.20	
Loss.....	.15	.32	
	100.00	100.00	
COAL NO. 1.			
Water, hygrometric.....		11.00	
Illuminating Gas.....	per lb., 1.64 cub. ft.		
Quality.....		poor	
Tar.....		abundant	
Sulphur.....		1.50	
Coke.....		52.00	
Ash.....		6.18	
Rate of Combustion in open air.....		medium	
or,			
Volatile matter.....		48.00	
Fixed Carbon.....		45.82	
Ash.....		6.18	
		100.00	

COAL NO. 2.

Water, hygrometric	13.00
Uncondensed Gases....	per lb., 1.40 cub. ft.
Illuminating quality.....	none
Tar.....	small amount
Sulphur	0.89
Coke.....	52.34
Ash.....	17.50
Rate of combustion in open air.....	medium

or,

Volatile matter.....	47.66
Fixed Carbon.....	34.84
Ash.....	17.50
	<u>100.00</u>

No. 1 is a cannel coal. No. 2 is a fair lignite, distinguished for containing a very small per cent. of sulphur.